

**DEVELOPMENT OF VALUE ENGINEERING/
COST BENEFIT COURSE AT
SLOVAK TECHNICAL UNIVERSITY**

**TRIP REPORT
MARCH/APRIL 1996**

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1. *Executive Summary*

A most successful workshop covering all aspects of Value Management was held at the Bardosova Institute 23-26 April 1996. More than 60 participants attended either the first-day executive briefing or the three-day workshop. Three faculty professors actively participated as assistant trainers. The attendees' evaluation of the overall program was excellent from two aspects. The first related to the "hands-on" workshop format—apparently this was quite new to Slovakia, where a teaching/listening seminar format was customary. Secondly, the attendees found the concept of Value Management, its organized methodology, and its opportunity for creative problem solving to be innovative and quite different from operating procedures under the previous controlled regime. There was an expressed desire to continue with a workshop program and strong interest in making all training materials available in the Slovak language. The local consulting firm, UEOS Komercia, provided excellent logistical support for the workshop.

2. *Value Management Workshop*

Summary of Activities

March 21 to April 2, 1996

- 2.1 Slovakian Technical University (STU)
Department of Economics and Management

Meeting 10:00 am, Friday, 22 March 1996

Present	Professors:	K. Ivanicka
		M. Durechova
		E. Sindlerova
		S. Chodusova
		G. Bollova
		I. Svec - UEOS
		A. G. Law - ANADAC/USAID

- 2.2 The meeting was held to review arrangements for the Value Management Workshop to be held 26-29 March 1996.

- 2.3 At this time, about 80 persons have pre-registered for the first day session and around 60 persons for the full workshop.

- 2.4 Translations have been completed, and UEOS has assembled a comprehensive workbook in English and Slovak.

2.5 The interpreter is reviewing the Video “The Business of Paradigms” and will prepare a commentary in Slovak.

2.6 Mr. Law explained that during the three-day workshop, the attendees would be divided into multi-discipline teams and it was hoped that the faculty members would act as team supervisors. This was agreed.

2.7 Professor Ivanicka will attend the opening of the workshop and will speak on behalf of STU. Mr. Law will act as moderator and will speak on behalf of USAID.

2.8 A meeting will be held at 1:00 pm on Monday, 25 March 1996, when Mr. Roger Sperling, the Value Management expert and instructor for the workshop, will be present.

2.9 Mr. Svec provided copies of pre-feasibility studies for six highway engineering projects in Slovakia, which had been prepared by the Slovak consulting firm, Dopravoprojekt, g.s., on behalf of the Slovak Road Administration. All the studies were similar in presentation, and one project, the Reconstruction of the 1/50 Road Zvolen-Pusty Hrad-Neresnica, Stage 3, had been prepared in Slovak and English. These studies were extremely well-prepared and contained all the information required for a Value Management Study. Mr. Svec will try to obtain permission to use this project in the workshop.

3. Training Workshop

“Value Management in a Market Economy”

Bardosova Training Institute

Bratislava - 26-29 March 1996

Roger B. Sperling, CVS - Instructor
Alastair G. Law, FRICS - Moderator

Prof. Eva Sindlerova - Assistant Instructor
Prof. Suzanne Chodusova - Assistant Instructor
Prof. Maria Durechova - Assistant Instructor

Ms. Vierošlava Pavlicova - Interpreter
Ms. Eva Dumanova - Interpreter

Mr. Igor Svec, UEOS - Workshop Manager
Mr. Eva Svabova - Assistant

3.1 The workshop was jointly sponsored by USAID and the Faculty of Engineering, Department of Economics and Management in the Building Industry, Slovak Technical University, and was a milestone in the program of continuing USAID support in curriculum reform at STU.

3.2 The workshop was structured in two components. The first was a one-day plenary session, which comprised an Executive Briefing on the Techniques of Value Management and was directed to a composite audience of senior executives, practitioners, and students. The second component was a three-day workshop session, which combined lecture and team exercise programs.

The Agenda for the full program follows.

Day One—Wednesday, March 27, 1996 (9:00 am-4:00 pm)

- Workshop Purpose and Agenda
- Reasons Why Poor Value Occurs
- Value Management Teams
- Definition of Value
- Value Management Job Plan
- Gathering Project Data
- Workshop: Introduction of Example Projects
- Function Analysis
- Workshop: Function Analysis
- Cost Modeling
- Workshop: Cost Modeling
- Questions and Answers

Day Two—Thursday, March 28, 1996 (9:00 am-4:00 pm)

- FAST Modeling
- Workshop: FAST Modeling
- Creative Thinking
- Habits, Roadblocks, and Attitudes
- Workshop: Create Ideas
- Evaluation Techniques
- Workshop: Evaluate Ideas
- Questions and Answers

Day Three—Friday, March 29, 1996 (9:00 am-2:00 pm)

- Life Cycle Costing Techniques
- Development of Alternatives
- Workshop: Develop Alternatives
- Presentation of Alternatives
- Workshop: Prepare Presentations

- Team Presentations
- Questions and Answers
- Evaluation of Workshop
- Closing

3.3 Day One: 26 March 1996 — Plenary Session

3.3.1 Some 70 persons attended the first Plenary Session, which was officially opened by Prof. Koloman Ivanicka, Head of the Department of Economics and Management, on behalf of STU; and Mr. Alastair G. Law on behalf of USAID. Prof. Ivanicka described the programs offered by his Department and thanked USAID for its continuing support through the assistance provided by Mr. Law, who was now considered a “member of the family” at STU. Mr. Law welcomed all the participants and described the important support USAID was providing in the areas of Public Procurement and the support to STU. It was also hoped a study to establish a Slovak Construction Cost Database, which was a key component of Value Management, would be started in the near future.

3.3.2 Mr. Law introduced Mr. Roger B. Sperling, a graduate of University of California at Los Angeles (UCLA) and a Certified Value Specialist. Mr. Sperling has over 35 years of experience in Engineering Design and Management and has held important Value Management posts at the Lawrence Livermore National Laboratory and the U.S. Department of Energy. He is a recognized expert in the field of Value Management and has conducted in excess of 60 training workshops throughout the U.S. and Canada.

3.3.3 Day One was an intensive lecturing program covering all aspects of the development of Value Management, beginning in the late 1940s to its present day application in all sectors of industry and covering the planning, design, and implementation phases. Central to the Value Management theory is the importance of a well-organized methodology, which will provide owners with options for obtaining a required product within its stated function and quality, and, at the same time, obtaining the best value for the proposed investment. Value Analysis follows a discrete Job Plan, which includes the essential phases of a Value Management program. Each of the following phases were described in detail using illustrative examples. In addition, it was indicated that the following three-day workshop would be a practical application of the Job Plan, studying a selected project.

Workshop Job Plan

Information Phase
Analysis Phase
Creative Phase
Judgment Phase
Development Phase
Presentation Phase

3.3.4 In addition to the specific components of the Value Analysis process, the plenary session included discussion of the principles of Cost Benefit Analysis, Risk Management, Life

Cycle Cost Analysis, and Range Estimating, all essential ingredients of the overall Value Management program. Considerable interest was generated by the video, "The Business of Paradigms," presented by Joel Barker, the noted futurist. Few, if any, attendees were familiar with paradigms and the video set a very significant background for the following three-day workshop.

Clearly, the greatest paradigm shift in Slovakia was the transition from a controlled regime to a market economy.

3.4 Days Two through Four, 27-29 March 1996 — Workshop Session

3.4.1 Five teams of 8-10 persons each were formed for the workshop. Each team was comprised of students and practitioners in a mix of disciplines. Three Professors from STU acted as facilitators.

3.4.2 According to the attendees, this was the first time a workshop-type training session had been organized Slovakia. They were more accustomed to a Seminar Format, where there was little or no active participation required or expected.

3.4.3 The workshop was a combination of teaching sessions followed by worked examples. Mr. Sperling led the teams through each of the Value Management Job Plan phases, first instructing and demonstrating by specific example, then having each team carry out the Value Management Phase on the designated project.

3.4.4 The designated project was a Pre-Feasibility Study for the Reconstruction of the I-50 Road, Zvolen-Pusty Hrad-Neresnica Stage 3, prepared by the consulting firm, Dopravoprojekt, on behalf of the Slovak Road Administration, which had given approval for the use of this report in the workshop. A copy is attached at Annex 1. The study was well-prepared and included all the elements required for a Value Management Study, including estimates and a cost-benefit analysis.

3.4.5 The workshop format worked extremely well and each team appeared to grasp the principles of value analysis quickly. There was some confrontation between the older practitioners and the younger students in one team, but this was overcome after the teaching session on the "Creative Phase," when it was made clear that the essence of Value Analysis is team working and group participation.

3.4.6 Another situation arose during the early sessions of the workshop, which clearly demonstrated that the Value Analysis approach to solving problems presented a major deviation from management concepts under the previous controlled regime. This was related to the Value Analysis concept that any study will produce several options for obtaining a product or service at the best cost (or value), while maintaining the required function and quality. Value studies therefore encourage the examination of function (using the Functional Analysis System Technique), and finally present all options and their associated costs, for ultimate management decision (Presentation and Implementation Phases).

During the early stages of the workshop, the instructors were frequently asked for “a copy of the correct answer.” The participants had some difficulty in accepting the premise that there might be more than one solution to a problem. However, by the end of the workshop, this was fully understood and accepted and, indeed, this entire concept was considered to be one of the most appreciated innovations of the workshop.

3.4.7 At the conclusion of the workshop, each team presented its findings. Remarkably, each team proposed a different solution, clearly demonstrating that the group had understood the principles of Value Management. Solutions had been developed based on differing engineering concepts, responses to environmental issues, and alternative transportation systems. The responses were well-thought-out and clearly presented.

3.4.8 A final discussion was held with all the participants to evaluate the workshop. They were asked to describe what they considered to be of value and any aspects that could be improved. The response was as follows.

Good Points:

1. Introduction to and working in team situations
2. Introduction to paradigms
3. Workshop was well-organized
4. Lectures were prepared well for workshop
5. Teaching technique was excellent
6. A lot of useful material was presented
7. Introduction to a new way of thinking
8. Encouraged to see problems from a different point of view
9. Interpretation was good

Issues That Could Be Improved:

1. Workshop should be longer (5 days)
2. Participants would have liked copies of all materials
3. Translation of all materials is important

3.4.9 Fifty-eight (58) Certificates of Attendance were given to the participants at the closing of the workshop (see Annex 2).

4. *Slovak Technical University*

Post Value Management Workshop Meeting, 1-2 April 1996

4.1 Prof. Ivanicka and his faculty considered this workshop to have been extremely successful and was an excellent opportunity for “training the trainers.” The faculty felt it would be helpful to repeat the workshop in the fall of 1996.

4.2 Prof. Maria Durechova has prepared an outline curriculum for Value Management, and it is still proposed to offer this course in the 1996/1997 academic year.

4.3 The video, "The Business Paradigms," will be retained by the faculty as a training tool. Ms. Pavlicova will tape record a Slovak translation for use with the video. Mr. Law requested that the video should be available for any other training programs sponsored by USAID.

4.4 Prof. Ivanicka requested that a complete set of material used in the University workshop be translated into Slovak. They will submit a proposal to have this work done at the University.

4.5 With regard to the continuing training of the faculty in Value Management and the introduction of a new course in 1996/1997, it would be valuable to have the faculty participate in at least one more practical workshop. The remaining LOE days in this RFS will be used to assist in finalizing the curriculum. A budget proposal will be prepared for another workshop.

4.6 Sources of funding for two faculty Professors to visit the United States for continued practical training will also be investigated.

ANNEX 1

PRE-FEASIBILITY STUDY RECONSTRUCTION OF I-50 ROAD ZVOLEN-PUSTY HRAD-NERESNICA

ANNEX 2

CERTIFICATE OF COMPLETION